



## The Defendant with the Prison Tattoo: The Effect of Tattoos on Mock Jurors' Perceptions

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Little is known about the potential for tattoos to bias how defendants are perceived. In Study 1, the participants ( $n = 30$ ) viewed photographs of five men with a tattoo (prison or modern style) on the face and neck or arm. Individuals with prison-style tattoos were perceived more negatively, especially when the tattoos were located on the face and neck compared to the arm. In Study 2, participants ( $n = 120$ ) were shown a photograph of a defendant who either had a prison-style tattoo or no tattoo, and read a scenario describing a physical assault (with either strong or weak evidence). Perceptions of defendant dangerousness mediated the relationship between the presence of a tattoo and mock jurors' perceptions of guilt.

**Keywords:** criminal trials; defendant stereotypes; juror decision-making; jury bias; tattoos.

In 2006, John Ditullio, a neo-Nazi murder defendant with a swastika tattoo on his neck (amongst others), sparked a public debate about whether or not potentially incriminating tattoos should be covered during a defendant's criminal trial. Ditullio's defence lawyer argued that the scary tattoos on the defendant's neck would 'colour' jurors' judgements against him, and the state paid for an expensive makeover to cover his tattoos despite the outrage of the victim's family (Schwartz, 2010).

A central value of the legal system is the defendant's right to a fair trial. The role of the jury in the courts is to evaluate the evidence impartially and decide on the defendant's guilt or innocence beyond a reasonable doubt (Devine, 2012). While jurors' decisions are often influenced by the quality and quantity of evidence presented (Devine, 2012; Devine, Buddenbaum, Houp, Studebaker, &

Stolle, 2009; Devine, Clayton, Dunford, Seying, & Pryce, 2001; Vidmar, 2005), irrelevant extra-evidentiary factors – such as stereotypes about defendant characteristics – can also be influential (Devine, 2012; Mazzella & Feingold, 1994). Research suggests that defendants who are male, physically unattractive, of lower socio-economic status, and from an ethnic minority are perceived as stereotypical offenders, and therefore are more likely to be convicted (for a meta-analysis, see Mazzella & Feingold, 1994).

Defendants with a tattoo may also be associated with the typical offender stereotype, and thus tattoos could therefore influence jurors' decision-making in ways that do not align with the values of fairness and impartiality (Funk & Todorov, 2013). Tattoos have long been associated with negative stereotypes and criminality in Western society (Durkin & Houghton, 2000; Govenar, 2000;

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Sperry, 1991; Stewart, 1990). Further, in a non-experimental study MacLin and Herrera (2006) found tattoos to be the major physical characteristic spontaneously associated with the criminal stereotype.

This potential for bias is particularly concerning, as the prevalence of tattoos has increased in recent years. In Australia, an estimated 14.5% of the Australian population had tattoos in 2004/5, up from 12.6% in 2001/2 and 10.1% in 1998 (Grulich, de Visser, Smith, Rissel, & Richters, 2003; Heywood et al., 2012; Makkai & McAllister, 2001). This is similar to the percentage of North Americans who currently have at least one tattoo (14%), although the proportion is higher amongst people aged between 18 and 40 years (36–40%; see ‘Tattoo statistics’, 2015). Data from Swedish prisons show that 40% of the inmates had tattoos, with this percentage going up to 80% among youth prisoners (Bondeson, 1989).

The present research investigates whether the presence of tattoos is a defendant characteristic that has the potential to impact courtroom judgements. While previous research by Funk and Todorov (2013) has identified an association between tattoos and perceptions of guilt, that research portrayed a defendant with only a single type of tattoo located on the face. The two studies in this article examine whether or not mock jurors hold negative stereotypes about defendants with tattoos that vary in style and location, and whether or not such stereotypes influence how mock jurors perceive a defendant in a criminal trial.

### ***Stereotypes about Tattooed Individuals***

Whereas research has documented variance in negative attitudes about tattooed individuals in comparison to non-tattooed individuals as a function of the perceiver’s occupation (Lin, 2002; Stuppy, Armstrong, & Casals-Ariet, 1998; Swami et al., 2012), few studies have empirically assessed what specific characteristics are associated with tattooed individuals compared to non-tattooed individuals. The research that has been conducted

suggests that tattoos operate as a proxy indicator for factors that are commonly associated with the criminal stereotype and that also inform punitiveness in juror decision-making, such as lower socio-economic status (Devine et al., 2001; Esqueda, Espinoza, & Culhane, 2008; Hoffman, 1981), masculinity (DeMello, 2000; MacLin & Herrera, 2006), and lower attractiveness (Degelman & Price, 2002; Resenhoeft, Villa, & Wiseman, 2008; Swami & Furnham, 2007). For example, Dean (2010) showed that individuals with visible tattoos (on the ‘arm, hands, and neck’) are perceived as a better fit for blue-collar occupations (e.g. auto mechanic) compared to white-collar occupations (e.g. accountant). Wohlrab, Fink, Kappeler, and Brewer (2009) found that tattooed men are perceived as more dominant and tattooed women as less healthy than their non-tattooed counterparts, with dominance being an attribute commonly associated with the male stereotype (Bem, 1974). Finally, a number of analyses have documented that tattooed individuals are perceived as significantly less attractive than non-tattooed individuals (Degelman & Price, 2002; Resenhoeft et al., 2008; Swami & Furnham, 2007), a trait linked to greater punitiveness in juror decision-making (DeSantis & Kayson, 1997; MacLin & Herrera, 2006).

Apart from Funk and Todorov’s (2013) study – which links the presence of a facial tattoo with perceptions of guilt – only two studies have directly investigated how tattooed individuals are perceived in terms of criminality, although neither of these studies examined whether or not the presence of tattoos influences perceptions of guilt. Houghton, Durkin, and Carroll (1995) investigated the attitudes and beliefs held about tattooed individuals by Australian youths (aged 6 to 17 years) in a focus-group study. Almost all participants had strong negative perceptions of people with tattoos, with unprompted suggestions that tattooed individuals might be more likely to be unemployed or have low-status jobs (e.g. garage workers), be bikers or criminals (e.g. drug dealers), and

engage in negative behaviours like fighting and substance use. Youths (early adolescents) in that study also reported a strong association between individuals having tattoos and getting in trouble with the police. However, older adolescents held more ambivalent attitudes towards tattoos, with some more conspicuous and 'cute' tattoos being seen as acceptable, likening them to fashion accessories. These findings suggest that tattooed individuals may be perceived as more likely to be criminals. However, this perception may vary as a function of the type of tattoo and its placement.

Durkin and Houghton's (2000) study found that a sample of youths (aged 6 to 16 years) associated tattooed individuals with negative attributes and behaviours (such as always looking for a fight, using drugs, and carrying weapons), and not with positive or neutral attributes. However, Durkin and Houghton note that it is unclear whether or not these findings would generalize to the adult population (i.e. potential jurors) or influence decisions about defendants in criminal trials. Drawing on Houghton et al. (1995), what also remains unclear is whether or not all tattoos and tattoo locations are equally influential – that is, whether simply having a tattoo is enough to make the negative stereotypes salient or whether the type of tattoo and/or its location are important factors with regard to perceiving an individual more negatively.

### ***Tattoo Diversity***

Tattoos may vary on several key characteristics, including number, size, bodily location, and style (which refers to the type of image, technique, and ideology; DeMello, 2000). Tattoo styles are heterogeneous, consisting of several distinct but overlapping styles, including tribal, photorealistic, biker, and prison-style tattoos to name a few (Sanders & Vail, 2008). DeMello (2000) suggests that the tattoo community is roughly split into two strata based on artistic, technological, and social (class and status) tattoo characteristics:

high- and low-class tattoos. High-class tattoos are those styles that are characteristic of the current modern tattoo movement; the fashionable, artistic and popular tattoos endorsed by middle-class professionals, and thus the more socially accepted within the tattoo community. Low-class tattoos include the style characteristics of the old and traditional tattoo community, such as being of lower quality and featuring themes associated with bikers, sailors, gangs and prisons, and are thus thought to be more commonly associated with the traditional tattoo stereotypes of delinquency, criminality, and the working class (DeMello, 2000).

However, limited empirical research has investigated the possibility that tattoos are perceived heterogeneously. Burgess and Clark (2010) investigated whether job applicants with a traditional 'tribal' style tattoo are perceived differently than those with a contemporary style 'dolphin' tattoo. They found that their participants perceived individuals with a tribal tattoo significantly more negatively and as less suitable for a job compared to when these individuals had a contemporary tattoo or no tattoo. Interestingly, individuals with a contemporary tattoo were perceived no differently than non-tattooed individuals, and the negative character evaluations of traditional tattooed individuals mediated judgements of their suitability for the job.

*Tattoo Style.* Despite this limited empirical research on the perceived differences between tattoo styles, observational research has considered potential underlying reasons for differences in how prison and modern tattoo styles are perceived (DeMello, 1993, 2000; Palermo, 2004; Sanders & Vail, 2008). One partial explanation is the differences in the visual quality of the tattoo styles (DeMello, 2000). The label 'prison-style tattoo' is used to describe tattoos obtained either illegally by inmates during their jail sentence or in the symbolism of having 'served time' (DeMello, 1993). They are either self-administered or provided by

another inmate acting as a jail tattoo artist using homemade tattooing equipment and typically involve monochromatic (black only), single-line, less-complex images of varying visual quality. Modern tattoo styles are obtained from trained professional tattoo artists using professional equipment and a range of coloured inks (DeMello, 2000) and are available in an extensive range of complexity, colour, and artistic styles (Sanders & Vail, 2008).

Tattoos can also be considered a deliberate and permanent form of communication written on the body (Palermo, 2004; Rozycki, Morgan, Murray, & Varghese, 2011). The variation in the types of image and their associated meanings may well be important for how perceivers view defendants with tattoos (DeMello, 2000; Palermo, 2004). Modern-style tattoos place a strong emphasis on image uniqueness, customization, and artistic quality; thus the variation in images and meaning is huge, incorporating images of animals, quotes, 'fine-art' copies and portraits, for example. The image themes of prison-style tattoos, on the other hand, are generally anti-social, representing prison life, death, vengeance, and group ideology, with many standard images used to convey specific meanings (Palermo, 2004). For example, common images reflecting time spent in prison include spiderwebs, barbed wire, and handless clock faces (Rozycki et al., 2011).

*Tattoo Location.* As with tattoo styles, there is substantial variety in the bodily locations of tattoo, ranging anywhere from individuals' 'eyelids to ankles' (Stuppy et al., 1998, p. 1165). However, a clear distinction can be made between tattoos placed on visible and non-visible body locations. Tattoos easily hidden with typical clothing are 'non-visible'. These tattoos are generally perceived more positively than non-concealable, visible tattoos such as those on the face, neck, or hands (Adams, 2009). Visible tattoos, as a broad category, are generally perceived as 'extra-stigmatizing', associated with greater

deviance and criminality (Adams, 2009; DeMello, 2000; Sanders & Vail, 2008). Prison-style tattoos are often located visibly (Adams, 2009; DeMello, 1993, 2000). Larger and more visible tattoos like on the face and neck are associated with a greater commitment to the criminal lifestyle, and higher gang status, than those on more concealable parts of the body. Indeed, research conducted with a nationally representative sample in the United States found that having highly visible tattoos on the face, neck, hands, or fingers is associated with significantly greater social deviance (in terms of three or more days spent in jail, and substance use) compared to having less visible tattoos or no tattoos (Adams, 2009).

### *The Current Research*

The current research aims to investigate experimentally the potential for defendant tattoos to bias juror decision-making unfairly. In particular, it tests whether or not the style and location of tattoos are related to how a defendant is perceived and the likelihood that he is seen as guilty. In order to assess this, it was first necessary to identify which specific characteristics of tattoos are associated with negative stereotypes. Previous non-experimental research has identified some potential characteristics of tattoos that may be more negatively perceived and thus influence perceptions of guilt. To test for a possible causal effect of variations in tattoos, Study 1 investigates how the participants evaluated individuals with tattoos of two different styles and in two different locations on the body. Study 2 investigates whether or not these tattoo-related stereotypes biased juror decision-making in a hypothetical criminal trial.

### **Study 1**

Study 1 aims to explore whether or not the style (prison vs modern) and location (face and neck vs arm) of tattoos matters for how tattooed individuals are perceived. Tattoo

style and location were manipulated by digitally altering the photographs of five men to include either a prison-style or a modern-style tattoo, on either the face and neck or the arm. It was predicted that tattooed individuals would be evaluated more negatively than non-tattooed individuals (H1), but primarily when those tattoos were of the prison style (H2). Finally, it was predicted that individuals with tattoos in highly visible locations (on the face and neck) would be perceived more negatively than individuals with less visible tattoos (on the arm; H3).

## Method

### *Participants and Design*

A total of 30 first-year psychology students (50% female, aged 16 to 41 years,  $M = 19.87$ ,  $SD = 5.08$ ) participated for course credit. The study features a 2 (tattoo style: prison vs modern)  $\times$  2 (tattoo location: face and neck vs arm) repeated-measures design with an additional control condition (no tattoo). A double Latin square design with 10 groups was used to counterbalance order effects of the 5 photographs by 5 conditions by 2 tattoo styles, ensuring that participants only saw each tattoo version once.

### *Materials and Procedure*

Participants were seated at independent computer stations and were asked to look at photographs of five men and answer a series of questions about their perceptions of each. Each photo and paired set of questions was presented individually. The five men photographed included three of the experimenter's acquaintances and two men taken from the Academic Facial Attributes Catalogue for Experiments (A-FACE) database (McKimmie & Chalmers, 2002). The five men were similar in appearance; all were clean-shaven, Caucasian and aged between 20 and 30 years. This age range is consistent with the majority of criminal defendants in the Australian legal

system (Australian Bureau of Statistics, 2013). The men were photographed wearing a black T-shirt, in frontal view and waist up, with a neutral facial expression. The faces were then digitally pasted onto the body of one man, so as to keep the tattoo placements consistent and reduce person-to-person differences in attributes unrelated to tattoo style and location.

### *Manipulation of Tattoo Style and Location.*

Tattoos were digitally added to the face and neck, and (in separate variations) to the mid-arm of the man in each photograph. To control for idiosyncratic features of any particular tattoo image, two tattoo versions of each style were used. Across participants, each of the five men was seen in every possible combination of tattoo style versions and locations. All tattoos were placed on the left side of the body and were of medium size, occupying an area equivalent to the upper arm (consistent across location). The prison-style images were monochromatic, of poor quality and depicted barbed wire and a spiderweb, both previously found to be common prison-style tattoos (DeMello, 1993; Palermo, 2004). For comparability of image themes (animal, object), the modern-style images used were butterflies and an artistic nautical star. These images were colourful and of visibly higher quality reflecting modern-style characteristics (see DeMello, 2000).

*Dependent Measures.* Participants completed a questionnaire assessing the dependent measures for each photo/condition. To assess whether participants perceived individuals as being likely to be criminals, participants first rated the extent to which they would 'recommend that the police prioritize this person for questioning' in a scenario in which the police have multiple suspects for a crime, on a scale from 1 = *not at all* to 7 = *very much*.

Participants also rated the extent to which the person was perceived as 'dangerous', 'likely to be violent', and 'threatening', again

rated from 1 = *not at all* to 7 = *very much* ( $\alpha$  per condition ranged from .90 to .97 across targets). Four additional items assessed participants' perceptions of the target person's socio-economic status in terms of average income, likelihood of full-time employment, education level, and the extent to which they were 'well off'. For example, participants were asked 'What income do you think this person earns?', with a response scale ranging from 1 = *lower than average* to 7 = *higher than average* ( $\alpha$ s range from .81 to .87 across targets). The next three items assessed perceptions of the target person's typicality as a criminal. For example, participants were asked 'To what extent does this person seem like a typical criminal?', with a response scale ranging from 1 = *not at all* to 7 = *very much/likely* ( $\alpha$ s ranged from .82 to .95). An additional set of questions served as pilot work for Study 2. Participants were asked to rate how likely it was that an individual (with or without prison tattoos) would be guilty if accused of a number of different crimes, from 1 = *not at all*, to 7 = *very likely* (see Table 2).

## Results

### Main Analyses

*Appearance as a Possible Criminal.* A 2 (tattoo style)  $\times$  2 (tattoo location) repeated-measures analysis of variance (ANOVA) was conducted in order to assess the extent to which the individual was seen as a possible criminal.<sup>1</sup> As predicted, there was a significant main effect of tattoo style,  $F(1, 29) =$

13.74,  $p = .001$ ,  $\eta_p^2 = .32$ . Participants recommended greater priority for police questioning for individuals with prison-style tattoos ( $M = 3.90$ ,  $SD = 1.20$ ) than modern-style tattoos ( $M = 3.32$ ,  $SD = 1.23$ ). However, contrary to predictions, no effect of tattoo location was found,  $F(1, 29) = 0.45$ ,  $p = .508$ , nor was the interaction significant,  $F(1, 29) = 2.23$ ,  $p = .146$  (see Table 1). Further partially supporting H1, paired-samples  $t$ -tests found that compared to non-tattooed individuals, participants recommended greater priority for police questioning for individuals with prison-style tattoos on the face and neck,  $t(29) = 4.76$ ,  $p < .001$ ,  $d = 0.85$ , or arm,  $t(29) = 3.10$ ,  $p = .004$ ,  $d = 0.56$ , but not for individuals with modern-style tattoos on the face and neck,  $t(29) = 1.00$ ,  $p = .326$ , or arm,  $t(29) = 1.24$ ,  $p = .224$  (see Table 1).

*Dangerousness.* A 2 (tattoo style)  $\times$  2 (tattoo location) repeated-measures ANOVA was conducted to assess perceptions of dangerousness. Contrary to predictions, no significant main effect of tattoo location was found,  $F(1, 29) = 1.24$ ,  $p = .275$ . As predicted, however, tattoo style did have a significant main effect,  $F(1, 29) = 13.17$ ,  $p = .001$ ,  $\eta_p^2 = .31$ . Participants perceived that individuals with prison-style tattoos ( $M = 3.57$ ,  $SD = 1.21$ ) were more dangerous than those with modern style tattoos ( $M = 2.95$ ,  $SD = 1.13$ ). There was also a significant tattoo style and location interaction,  $F(1, 29) = 4.54$ ,  $p = .042$ ,  $\eta_p^2 = .14$ . Tattoo location

Table 1. Means ( $SD$ s) of dependent measures for tattoo style and location, and comparisons to control.

	Modern style		Prison style		Control
	Arm	Face and neck	Arm	Face and neck	
Criminal appearance	3.37 <sub>a</sub> (1.38)	3.27 <sub>a</sub> (1.08)	3.73 <sub>a</sub> * (1.23)	4.07 <sub>a</sub> * (1.17)	3.03 (1.27)
Dangerous	2.97 <sub>a</sub> (1.23)	2.92 <sub>a</sub> (1.04)	3.36 <sub>a</sub> * (1.18)	3.79 <sub>b</sub> * (1.24)	2.68 (1.21)
Offender typicality	3.24 <sub>a</sub> * (0.99)	3.00 <sub>a</sub> (0.92)	3.80 <sub>a</sub> * (0.99)	4.11 <sub>b</sub> * (0.94)	2.88 (1.21)
Socio-economic status	3.81 <sub>a</sub> * (0.82)	3.54 <sub>a</sub> * (0.72)	3.64 <sub>a</sub> * (0.83)	3.35 <sub>a</sub> * (0.81)	4.21 (0.88)

Note: Means with different subscripts in the same row are significantly different at  $p < .05$ ; \*Means in each cell in the same row are significantly different from control at  $p < .01$ .



Table 2. Means (SDs) of perceived guilt likelihood of individuals with prison-style tattoos on the face and neck and non-tattooed individuals committing different crime types.

Crime type	Non-tattooed	Prison-style face and neck tattoo
Armed robbery	2.43 (1.20)	3.61 (1.42)*
Physical assault	3.12 (1.45)	4.21 (1.26)*
Sexual assault	2.90 (1.17)	3.64 (1.62)*
Car theft	2.93 (1.46)	3.79 (1.23)*
Burglary	2.93 (1.51)	3.93 (1.15)*
Fraud	3.14 (1.24)	2.96 (1.29)
Drug trafficking	3.00 (1.74)	3.79 (1.29)*
Murder	2.25 (1.14)	2.93 (1.44)*
Drive-by Shooting	2.04 (1.07)	2.71 (1.51)*
Terrorism	2.18 (1.34)	1.96 (1.11)

Note: \*Means in each row are significantly different at  $p < .05$ .

was not found to moderate participants' perceptions of dangerousness for individuals with a modern-style tattoo,  $t(29) = -0.21$ ,  $p = .835$ , but participants perceived individuals with a prison-style tattoo as significantly more dangerous when their tattoo was located on the face and neck compared to the arm,  $t(29) = 2.12$ ,  $p = .042$  (see Table 1).

Further, partially supporting H1, paired-samples  $t$ -tests found that participants perceived individuals with prison-style tattoos on the neck and face,  $t(29) = 45.46$ ,  $p < .001$ ,  $d = 0.91$ , or arm,  $t(29) = 3.05$ ,  $p = .005$ ,  $d = 0.57$ , as significantly more dangerous than non-tattooed individuals, whereas individuals with modern-style tattoos on the face and neck,  $t(29) = 1.18$ ,  $p = .246$ , or arm,  $t(29) = 1.17$ ,  $p = .251$ , were perceived as no more dangerous than non-tattooed individuals (see Table 1).

**Offender Typicality.** A 2 (tattoo style)  $\times$  2 (tattoo location) repeated-measures ANOVA assessed perceived offender typicality and found the same pattern of results as perceived dangerousness. Perceptions of the target individuals' similarity to typical offenders were not significantly affected by tattoo location,  $F(1, 29) = 0.05$ ,  $p = .820$ , but were significantly affected by tattoo style,  $F(1, 29) = 37.37$ ,  $p < .001$ ,  $\eta_p^2 = .56$ . Participants perceived that individuals with prison-style

tattoos ( $M = 3.96$ ,  $SD = 0.97$ ) were significantly more like a typical offender than those with modern-style tattoos ( $M = 3.12$ ,  $SD = 0.96$ ). There was also a significant tattoo style and location interaction,  $F(1, 29) = 9.57$ ,  $p = .004$ ,  $\eta_p^2 = .25$ . Tattoo location was not found to moderate participants' perceptions of individuals with modern-style tattoos,  $t(29) = -1.23$ ,  $p = .229$ . However, participants perceived individuals with prison-style tattoos as more like a typical offender when the tattoo was located on the face and neck than on the arm,  $t(29) = 2.28$ ,  $p = .030$  (see Table 1).

Further, partially supporting H1, paired-samples  $t$ -tests found that participants perceived tattooed individuals as significantly more like a typical offender when they had a prison-style tattoo on the face and neck,  $t(29) = 6.79$ ,  $p < .001$ ,  $d = 1.34$ , or arm,  $t(29) = 4.63$ ,  $p < .001$ ,  $d = 0.83$ , compared to non-tattooed individuals. Participants also perceived individuals with modern-style tattoos as more like a typical offender than non-tattooed individuals, but only when the tattoo was located on the arm,  $t(29) = 2.10$ ,  $p = .045$ ,  $d = 0.33$ , and not on the face and neck,  $t(29) = 0.67$ ,  $p = .508$  (see Table 1).

**Socio-economic Status.** A 2 (tattoo style)  $\times$  2 (tattoo location) repeated-measures ANOVA was conducted on socio-economic

status. Contrary to expectations, participants' perceptions of the target individual's socio-economic status were not significantly affected by tattoo style,  $F(1, 29) = 2.69, p = .112$ , tattoo location,  $F(1, 29) = 3.13, p = .087$ , or an interaction between tattoo style and location,  $F(1, 29) = 0.02, p = .883$  (see Table 1). However, supporting H1, paired-samples  $t$ -tests found that participants did perceive all tattooed individuals as having significantly lower socio-economic status than non-tattooed individuals. It was found that including prison-style tattoos on the face and neck,  $t(29) = -4.31, p < .001, d = 1.02$ , or arm,  $t(29) = -3.64, p = .001, d = 0.67$ , and modern-style tattoos on the face and neck,  $t(29) = -3.36, p = .002, d = 0.83$ , or arm,  $t(29) = -2.11, p = .044, d = 0.47$ , led to lower ratings of lower socio-economic status (see Table 1).

## Discussion

Study 1 investigated whether or not tattooed individuals are associated to a greater degree with negative and criminally relevant stereotypes compared to non-tattooed individuals, and whether or not these stereotypes depend on the tattoo characteristics of style (prison vs modern) and bodily location (face and neck vs arm). As predicted, participants perceived individuals with a prison-style tattoo as being more like a possible criminal and typical offender, more dangerous, and of lower socio-economic status than non-tattooed individuals. Further, participants perceived individuals with modern-style tattoos as being of lower socio-economic status than non-tattooed individuals. However, contrary to predictions, participants perceived individuals with modern-style tattoos on the arm, but not face and neck, as more like typical offenders than non-tattooed individuals, and no differently from non-tattooed individuals in terms of looking like a possible criminal, and being dangerous. Partially supportive of H2, participants perceived individuals with modern-style tattoos more positively than

individuals with prison-style tattoos on all measures except socio-economic status. Further, partially supporting H3, tattoo location on the body only moderated perceptions of individuals with prison-style tattoos and not modern-style tattoos, who were perceived as more dangerous and more like a typical offender when their tattoos were on the face and neck compared to the arm.

This study's methodology limits its generalizability to how jurors might perceive tattooed individuals in that little contextual information about the defendant was provided, and only a limited sample of target individuals and tattoos was used. Therefore, it may not be surprising that participants used tattoo-related stereotypes to evaluate the novel others in the absence of other available information. Further, participants were not asked to make decisions reflective of those asked of jurors. It is unknown whether or not individuals would evaluate tattooed defendants according to these negative tattoo-related stereotypes when presented with a fuller context of a criminal trial involving additional cues for decision-making, such as the strength of evidence.

## Study 2

Study 2 investigates whether or not stereotypes about defendant tattoos of prison style on the face and neck unfairly bias mock juror decision-making in the context of a hypothetical criminal trial scenario. One theory has suggested that jurors' decision-making can be biased due to extra-evidentiary stereotypes reducing their sensitivity to the case evidence presented (McKimmie, Masters, Masser, Schuller, & Terry, 2012). Dual-process models of persuasion provide insight into this process (Chaiken & Ledgerwood, 2007). The dual-process models (including the Elaboration Likelihood Model and the Heuristic-Systematic Model) distinguish between two basic ways that perceivers process information when forming opinions; a more effortful, central route (systematic processing) and a less effortful, peripheral route (heuristic



processing; Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986). The central route processes involve a comprehensive, careful examination of all the persuasive evidence presented and a systematic evaluation of its strengths and weaknesses in order to form a well thought-out and integrated opinion (Chaiken et al., 1989; DeMarree & Petty, 2007). This route of information processing entails greater cognitive effort and capacity, and as such its use requires motivation and ability.

In contrast, the peripheral route of information processing relies on a subset of easily cued schemata, inferential rules, and judgemental heuristics such as stereotypes in order to make decisions in the absence of critical evaluation of the evidence (Chaiken et al., 1989). For example, in this process, stereotypes are used to make superficial and cognitively efficient judgements about novel others based on their group membership without carefully evaluating evidence of their unique characteristics. As this heuristic processing requires much less cognitive effort and capacity it can be used both intentionally and automatically without motivation or ability.

As the use of stereotypes may be associated with decreased consideration of the evidence when forming opinions, one way to assess jurors' use of stereotypes about tattooed defendants in their decision-making is by manipulating the strength of the evidence presented in the case. As might be expected, the effect of the strength of the evidence on juror decision-making is that jurors are more likely to convict a defendant when the case evidence against them is strong than when the evidence is weak (Devine, 2012). Based on the dual-process models, systematic processing of the case evidence should result in variations in verdicts as a function of variation in the strength of the evidence. In contrast, heuristic processing should result in a weaker effect of the strength of the evidence on verdicts.

In order to assess whether or not stereotypes about tattoos bias juror decision-making, Study 2 uses a mock-juror paradigm

manipulating the strength of the evidence presented in the case (strong or weak) and the presence of a defendant tattoo (prison-style face and neck tattoo vs no tattoo) for a hypothetical physical assault scenario. In line with Study 1, it was predicted that tattooed defendants would be perceived more negatively, and with greater guilt likelihood, than non-tattooed defendants (H1). It was also predicted that a strong case would result in the defendant being seen as being more likely to be guilty compared to when the case was weak (H2). Finally, it was predicted that this main effect of evidence strength would be moderated by the presence of a tattoo; it would be stronger for non-tattooed individuals compared to tattooed individuals (H3).

## Method

### *Participants and Design*

A total of 120 first-year psychology students (64% women, aged 16 to 52 years,  $M = 20.36$ ,  $SD = 6.02$ ) participated for course credit. The study uses a 2 (tattoo presence: prison-style face and neck tattoo vs no tattoo)  $\times$  2 (strength of evidence: strong vs weak) between-groups design. As in Study 1, multiple photograph stimuli (three men and two tattoo style versions) were used to control for person-to-person and tattoo image-to-image effects. Each condition contained 30 participants and equal numbers were randomly exposed to each stimulus.

### *Materials and Procedure*

As in Study 1, participants were seated at individual computers. All materials were presented online via Qualtrics. Participants read the information sheet and began the study when ready.

*Tattoo Presence Manipulation.* Participants were first instructed that they would be shown a photograph of a hypothetical defendant and a short crime scenario, and then asked several

questions about their verdict and perceptions of the defendant. At this point participants were randomly allocated to a tattoo condition and shown a photograph of the defendant who either had a prison style tattoo on his face and neck (of either a spiderweb or barbed wire) or no tattoo (control). The stimuli were identical to those used in Study 1.

*Strength of Evidence Manipulation.* While able to view the photo, participants read an approximately 400-word scenario describing a physical assault, including a description of the crime, witness testimony, the prosecutor's case and the defence's arguments. The scenario described an altercation outside a bar between the defendant and the male victim. Pilot work via additional questions from Study 1 suggested that physical assault is stereotypically associated with individuals who have a tattoo, especially when that tattoo is of the prison style on the face (see Table 2 from Study 1). The prosecutor's main witness allegedly saw the defendant verbally abuse and physically assault the victim while waiting in line outside the premises. The witness subsequently identified the defendant as the offender from a photo line-up.

Evidence strength was manipulated by varying the witness's confidence in his identification of the defendant as the offender when cross-examined by the defence lawyer. The witness stated that he was either 90% confident (strong evidence) or 50% confident (weak evidence) that the defendant was the man he saw involved in the altercation. The defence maintained that the defendant had not been at the scene of the altercation, was not guilty, and that the offender was another man of a similar appearance. All scenario information was identical except for the strength of evidence manipulation. Participants then read instructions directing them to 'only take into account the evidence presented and reach a verdict beyond reasonable doubt' for the physical assault charge.

*Dependent Measures.* Participants then completed a questionnaire assessing the dependent measures. Participants were asked for their verdict on a dichotomous item (Guilty of physical assault vs Not guilty of physical assault). The second question asked about perceptions of guilt likelihood – 'How likely is it that the defendant committed physical assault?' – where 1 = *not at all* and 7 = *very likely*. Participants then completed the same measures as in Study 1 designed to assess perceptions of the defendant's offender typicality, socio-economic status, and dangerousness ( $\alpha$  range from .86 to .92 across measures).

Following these questions, a manipulation check was used to assess the strength of evidence manipulation. A single-item question asked 'How strong would you rate the evidence against the defendant?' where 1 = *not at all* and 7 = *very strong*. The dependent variables were then assessed with two additional 7-point semantic differential scales that asked participants to rate the evidence presented by the prosecution and the defence on five dimensions such as weak–strong and unconvincing–convincing. Reliable composite variables were created for both the prosecution ( $\alpha = .84$ ), and defence ( $\alpha = .71$ ) evidence items.

## Results

### Manipulation Check

The manipulation of case strength was checked using a 2 (tattoo presence)  $\times$  2 (strength of evidence) between-subjects ANOVA on the measure of the general strength of the evidence. As expected, there was a significant main effect of evidence strength, with participants perceiving the case as having significantly stronger evidence in the strong condition ( $M = 4.30$ ,  $SD = 1.32$ ) compared to the weak condition ( $M = 3.15$ ,  $SD = 1.30$ ),  $F(1, 116) = 22.92$ ,  $p < .001$ ,  $\eta_p^2 = .17$ . No main effect of tattoo presence was found,  $F(1, 116) = 0.04$ ,  $p = .835$ , and there was no significant interaction between

tattoo presence and the strength of the evidence on perceptions of the general strength of the evidence,  $F(1, 116) = 0.81, p = .369$ . These results indicate that the manipulation of the strength of the evidence was successful.

**Main Analyses**

*Verdict, Guilt Likelihood and Strength of the Evidence.* Overall, participants gave more not guilty verdicts than guilty verdicts (73 vs 47).<sup>2</sup> A sequential logistic regression was first performed with guilt verdict as the dependent variable and defendant tattoo presence, strength of the evidence and an interaction of the two as predictors. The direct effects of defendant tattoo presence (H1) and strength of the evidence (H2) were entered at step 1 and the interaction entered at step 2 to assess whether or not the hypothesized moderation (H3) accounts for additional variation in verdicts. A total of 120 cases were analysed. Contrary to predictions, no predictors were significantly related to verdicts at step 1,  $\chi^2(2) = 2.04, p = .361$ , or at step 2,  $\chi^2(1) = 1.67, p = .196$ . In addition, the full model was not statistically significant,  $\chi^2(3) = 3.71, p = .294$ , indicating that the model was unable to predict participants' verdicts. This model only accounts for a small variance in the verdict decisions (3.0–4.1%), with 34.0% of guilty verdicts and 80.8% of not guilty verdicts successfully predicted. Overall, 62.5% of the verdicts were correctly classified.

Table 3 shows that contrary to predictions, neither the presence of defendant tattoos, the strength of the evidence, nor their interaction can significantly predict participants' verdicts.

Participants' perceptions about the likelihood of the defendant's guilt and the strength of prosecution and defence evidence were then assessed using  $2$  (tattoo presence)  $\times 2$  (strength of the evidence) between-subjects ANOVAs. As expected (H2), participants thought that the defendant was more likely to be guilty when the case was strong ( $M = 4.75, SD = 1.16$ ) compared to weak ( $M = 4.10, SD = 1.02$ ),  $F(1, 116) = 10.58, p = .001, \eta_p^2 = .08$ . However, contrary to H1, there is no main effect of defendant tattoo presence,  $F(1, 116) = 0.84, p = .361$ , nor was the interaction significant (H3),  $F(1, 116) = 0.56, p = .454$ .

Again consistent with H2, participants thought that the evidence presented by the prosecution was significantly stronger in the strong evidence condition ( $M = 4.34, SD = 1.01$ ) compared to the weak evidence condition ( $M = 3.64, SD = 1.19$ ),  $F(1, 116) = 11.71, p = .001, \eta_p^2 = .09$ . However, there was no main effect of defendant tattoo presence,  $F(1, 116) = 0.03, p = .876$ , and no significant interaction,  $F(1, 116) = 0.54, p = .464$ . There were no significant effects for the measure assessing what participants thought about the defence case (all  $F$ s  $< 2.20$ ).

Table 3. Sequential logistical regression predicting mock juror verdict.

							95% CI	
	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Exp( <i>B</i> )	Lower	Upper
<i>Step 1</i>								
Tattoo presence	0.21	0.38	0.32	1	.572	1.35	0.46	3.97
Evidence strength	0.49	0.38	1.71	1	.191	1.64	0.78	3.44
<i>Step 2</i>								
Tattoo presence	−1.28	1.22	1.11	1	.293	0.28	0.03	3.03
Evidence strength	−0.98	1.20	0.67	1	.414	0.38	0.04	3.94
Interaction	0.98	0.76	1.66	1	.198	2.67	0.60	11.86

*Tattoo-related Stereotypes.* The analysis of perceived defendant dangerousness, offender typicality, and socio-economic status supports H1. There was a significant main effect of tattoo for the measure of the defendant's dangerousness – participants perceived tattooed defendants as being significantly more dangerous ( $M = 4.38$ ,  $SD = 1.24$ ) than non-tattooed defendants ( $M = 3.81$ ,  $SD = 1.02$ ),  $F(1, 116) = 7.53$ ,  $p = .007$ ,  $\eta_p^2 = .06$ . There was no effect of strength of the evidence on perceptions of dangerousness,  $F(1, 116) = 0.07$ ,  $p = .790$ , and no significant interaction,  $F(1, 116) = 0.10$ ,  $p = .750$ . Consistent with this, participants' perceptions of offender typicality were also significantly influenced by the presence of tattoos, with tattooed defendants ( $M = 4.51$ ,  $SD = 1.05$ ) being perceived as being more like a typical offender than non-tattooed defendants ( $M = 3.71$ ,  $SD = 1.05$ ),  $F(1, 116) = 18.93$ ,  $p < .001$ ,  $\eta_p^2 = .13$ . However, offender typicality was not found to be influenced by the strength of evidence and there is no significant interaction for both measures,  $F(1, 116) = 0.24$ ,  $p = .625$ .

Finally, there is a significant main effect of tattoo on participants' perceptions about the defendant's socio-economic status –

tattooed defendants ( $M = 3.43$ ,  $SD = 0.92$ ) were perceived as being of significantly lower socio-economic status than non-tattooed defendants ( $M = 3.87$ ,  $SD = 0.80$ ),  $F(1, 116) = 7.93$ ,  $p = .006$ ,  $\eta_p^2 = .06$ . However, there was no effect of strength of evidence on perceptions of socio-economic status,  $F(1, 116) = 0.06$ ,  $p = .813$ , and no significant interaction,  $F(1, 116) = 0.06$ ,  $p = .813$ .

*Exploratory Mediation.* Given the consistent effects of the presence or absence of a tattoo on how the defendant was perceived, but a lack of significant effects of tattoo presence on case-relevant outcomes, exploratory analyses were conducted to examine whether or not the presence of defendant tattoos indirectly influenced case outcomes through perceptions about the defendant (a significant direct effect is not a requirement for examining potential indirect pathways). Specifically, the PROCESS macro was used to test whether or not the tattoos had an effect on the guilt likelihood through perceptions of defendant dangerousness, offender typicality and socio-economic status, as shown in Figure 1 (Preacher and Hayes, 2004). The significance of the mediation effect, based on 95% bias-corrected confidence intervals derived from

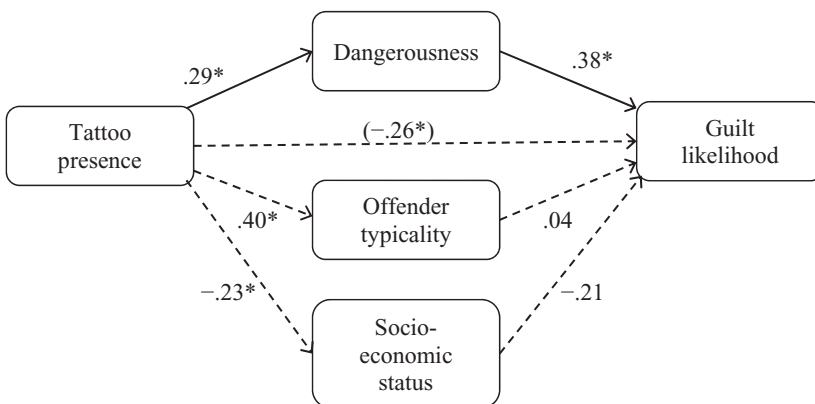


Figure 1. Statistical path model (direct effect) displaying unstandardized coefficients for defendant tattoo presence as a predictor of guilt likelihood, including paths to represent possible mediation by perceived dangerousness, offender typicality, and socio-economic status.

Note: \* $p < .05$ .

1,000 bootstrap resamples, is indicated when the confidence intervals exclude zero.

As shown in Figure 1, the presence of defendant tattoos was significantly associated with greater perceived dangerousness ( $b = .29$ ,  $SE = .10$ ) and offender typicality ( $b = .40$ ,  $SE = .10$ ), and lower socio-economic status ( $b = -.22$ ,  $SE = .08$ ). However, perceived dangerousness was the only mediator significantly associated with greater guilt likelihood ( $b = .38$ ,  $SE = .12$ ). The direct effect of defendant tattoo presence on guilt likelihood, controlling for potential indirect effects, was significant ( $b = -.26$ ,  $SE = .10$ ). The results of the 95% confidence intervals found that this relationship between the presence of a tattoo and guilt likelihood was mediated by perceived dangerousness,  $b = .11$ , CI [0.02, .248], but not by perceived offender typicality,  $b = .02$ , CI [-0.01, 0.14], or socio-economic status,  $b = .05$ , CI [0.00, 0.14]. The overall regression model was significant, indicating that 24% of the variance in guilt likelihood was accounted for by the presence of tattoos and perceptions of defendant dangerousness, socio-economic status and similarity to typical offenders,  $R^2 = .24$ ,  $F(4, 115) = 9.00$ ,  $p < .001$ . These results indicate that the presence of a tattoo indirectly influenced participants' decision-making by increasing perceptions of the defendant's dangerousness. Therefore, this analysis partially supports the hypothesis that the presence of tattoos on defendants influenced participant decision-making (H1).

## Discussion

This study investigated whether or not stereotypes about tattooed defendants bias mock juror decision-making at the expense of the strength of evidence in a criminal trial. The results partially support the hypothesis that the participants perceived tattooed defendants more negatively and as having greater guilt likelihood compared to non-tattooed defendants (H1). As predicted, the participants perceived tattooed defendants more negatively

than non-tattooed defendants in terms of offender typicality, dangerousness, and socio-economic status. Contrary to predictions, participants' verdicts and perceptions of guilt likelihood were not directly influenced by the presence of defendant tattoos. This may have been due to the influence of other factors on the verdict, such as concerns about appearing prejudiced by indicating that a person with a tattoo is more likely to be guilty.

In fact, when perceived dangerousness was taken into account via an exploratory mediation analysis there was a significant indirect pathway predicting guilt likelihood through perceived dangerousness, as well as an effect of tattoo presence on guilt likelihood. This suggests that there were two competing effects at play, namely that the presence of a tattoo increased the extent to which the defendant was seen as being dangerous, and subsequently seen as being more likely to be guilty, but also exerted an opposite effect directly on perceptions of guilt such that the defendant was seen as being less likely to be guilty. This latter effect possibly reflects concerns about appearing prejudiced by basing estimates of guilt likelihood on an avert social cue such as tattoos (e.g., Chiang, 2010).

## General Discussion

This research investigates whether or not defendant tattoos unfairly bias juror decision-making in a hypothetical criminal trial. Study 1 explores whether or not negative stereotypes are associated with tattooed individuals and whether or not these stereotypes depend on the characteristics of style and location. As predicted, individuals with prison-style tattoos were perceived more negatively than those with modern-style tattoos or no tattoos, especially when the tattoos are located on the face and neck compared to the arm. Study 2 investigates whether or not these tattoo-related stereotypes bias mock juror decision-making at the expense of the strength of

evidence in a hypothetical criminal trial. Contrary to predictions, the presence of a prison tattoo did not directly influence participants' guilt judgements or reduce their sensitivity to the strength of the evidence presented. There was however an indirect relationship between having a prison tattoo and perceptions of guilt, mediated by perceptions that the defendant was dangerous.

The results of Study 1 show that individuals' perceptions of tattooed others depended on the style and location of their tattoo. Previous research has not systematically examined these differences in tattoo style. It was found in the current study that people perceive individuals with modern-style tattoos more positively than individuals with prison-style tattoos, and as largely no different from non-tattooed individuals – with the exception that all tattooed individuals are associated with being of a lower socio-economic status. However, people associated individuals with prison-style tattoos, especially on the face and neck, with negative stereotypes, and as being more like typical offenders. Based on these results, Study 2 tested the prediction that mock jurors would perceive defendants with prison-style tattoos more negatively and as being more likely to be guilty compared to non-tattooed defendants.

The results show that the presence of a tattoo led to participants evaluating the defendant as more dangerous, and that this dangerousness was then associated with higher likelihood of guilt. This effect was observed in the context of a direct effect of tattoo presence on perceptions of guilt likelihood, such that a tattoo was associated with lower perceived likelihood of guilt. This suggests that jurors may be prejudiced against defendants with prison-style tattoos but at the same time do not want to appear to be prejudiced by basing their judgements on that social cue. This mediation is consistent with Burgess and Clark's (2010) finding that people perceive individuals with tribal tattoos more negatively in terms of dispositional characteristics, which partially mediated the relationship

between the presence of a tattoo and prejudicial judgements of job suitability. Tattoos were not found to influence participants' verdicts of guilt directly, despite the finding in Study 1 that individuals with prison-style tattoos are seen as being more similar to a typical offender. This is also inconsistent with research on other defendant characteristics associated with the typical offender stereotype, including gender, race, socio-economic status, and physical attractiveness (Devine et al., 2001; Mazzella & Feingold, 1994). This prior research has found that jurors perceive defendants more negatively and are more likely to see them as guilty when their characteristics match those of the stereotypical offender for a particular crime.

One explanation for the lack of effects on the dichotomous measure of guilt is that the manipulation of evidence strength might not have been strong enough. Although the manipulation was successful, it was somewhat modest, with scores being distributed around the mid-point of the scale. Therefore, the evidence presented may have been too weak, with even the strong evidence condition not strong enough to meet the required threshold of 'beyond reasonable doubt' for convictions. Research has suggested that individuals want to appear unprejudiced (Chiang, 2010). Thus, to retain positive self-presentation they only use stereotypes when there is another reason they can justify doing so. The liberation hypothesis and dual-process models of persuasion suggest that for individuals to rely on stereotypes in their decisions, the evidence must be ambiguous, or moderately strong (Devine et al., 2009). This research suggests that participants may not have felt justified in using negative tattoo-related stereotypes in their guilt perceptions because of the weak, pro-acquittal nature of the evidence. The presence of an effect for tattoo presence on estimates of guilt likelihood once perceived dangerousness was taken into account suggests that this was indeed the case.

In terms of policy implications, the findings of the current research suggest that under



certain conditions some action might be taken to reduce the potential negative effect of tattoos on the defendant – namely, when the defendant has highly visible prison-style tattoos. One possible remedy is to use professional make-up to cover the presence of the tattoo for the duration of the trial (as was used when John Ditullio was tried for murder in Florida in 2010). Perhaps more controversially, this research suggests that any photos tendered as evidence that show the defendant's tattoos might need to be digitally edited if the goal is to reduce any prejudicial influence. This is likely to be a less palatable solution given that it involves physically changing the evidence that is presented to jurors. Whereas it might be thought that the process of group deliberation would reduce or eliminate the bias of any one juror, jury deliberation should perhaps not be relied on as a remedy for biases introduced by the presence of tattoos. The research on pre-trial publicity, another often prejudicial bias (e.g. Ogloff & Vidmar, 1994), suggests that deliberation can actually accentuate the effect of biasing factors (Kramer, Kerr, & Carroll, 1990). That research also suggests that judicial instructions to ignore the potential bias introduced by pre-trial publicity are often not effective, and that jurors continue to be influenced. Thus, it appears that hiding the appearance of potentially prejudicial tattoos may be the most effective way to reduce their influence.

A potential limitation of this research may be the use of university student samples. The samples were not restricted for juror eligibility, with 20% of participants in Study 2 under 18 years of age. Research has suggested that university student samples are generally not systematically different from a representative jury (Lieberman, Krauss, & Wiener, 2011). However, in this research the relatively younger age of the samples compared to a representative jury may be a limitation. A correlational study has suggested that young adults are less likely to stereotype tattooed individuals negatively than older adults (Dean, 2010). Therefore, it is possible that

participants in this research might have had more positive attitudes towards tattooed individuals than a more age-representative sample of a jury would have.

Another limitation and area for further study is the possible influence of culture on the attributes associated with tattoos. In some cultures, tattoos are valued as positive cultural markers (see Kuwahara, 2006), and so the stigmatizing effect of tattoos may be more limited. Although the current research suggests that prison style tattoos are the most detrimental (compared to modern style), so any positive effect associated with the cultural value of tattoos might be limited to those tattoos consistent with the cultural style.

In conclusion, this program of research provides novel insight into how the presence of tattoos on defendants might bias juror decision-making in criminal trials. It was found that tattooed individuals are not homogeneously stereotyped and discriminated against, with the exception that tattooed individuals are associated with lower socio-economic status, which, in turn, is associated with greater criminality. Individuals' perceptions of tattooed others depend on the style and location of their tattoos, with more negative stereotypes associated with prison-style tattoos than modern-style tattoos. It was found that negative stereotypes about defendants with highly visible prison-style tattoos can indirectly negatively bias mock juror decision-making. This may have important implications for the criminal justice system, suggesting that some action to reduce the biasing effect of the tattoo might need to be taken when defendants have the most negatively viewed tattoos.

## Notes

1. Checks were conducted to ensure that there were no differences as a function of the different people depicted in the five photographs or of the two tattoo versions within each tattoo style. No consistent person or tattoo version differences were found.

2. Analyses were conducted to check that there were no differences as a function of the different people depicted in the photographs or of the two tattoo versions. No consistent person or tattoo version differences were found.

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